Remarks

Claims 1-41 and 51-74 were pending and under examination. Claims 1-5, 11, 26, 66, 68, 70, and 71 are amended; claim 14 is canceled without prejudice or disclaimer; and new claims 78-103 are added by this Amendment. No new matter is introduced.

Applicants hereby gratefully acknowledge that the restriction requirement mailed January 24, 2003, has been vacated by the Examiner. Applicants further acknowledge that the Examiner indicated that claims 27-41 and 51-74 are allowed. While claims 27-41, 51-65, 67, 69, and 72-74 stand as allowed, the Examiner is alerted to the fact that allowed claims 66, 68, 70, and 71 are currently amended.

Claims 1 and 66 are amended to specify a definite range of time, from 3 to 30 days, inclusive, by which exposure to antigen follows administration of CpG oligonucleotide. Claims 1 and 66 are also amended to specify particular types of antigens, which do not include living organisms, to which the treated subject or nonhuman vertebrate is exposed following administration of CpG oligonucleotide. Support for these amendments can be found throughout the application, including page 21, lines 16-17, and page 17, lines 9-13.

Each of claims 2-5 is amended to substitute the word "exposing" for the phrase "antigen ... administered", in accord with the "exposing" of claim 1 from which these claims depend. Support for these amendments can also be found in the specification, for example, at page 30, lines 12-22. Claims 2-5 are also amended to specify the oligonucleotide is a CpG oligonucleotide. Support for these amendments can be found throughout the specification. Claims 2-5 are also amended to specify an upper limit of 30 days for the delay in exposure to antigen relative to administration of CpG oligonucleotide. Support for these amendments can be found throughout the application, including page 21, lines 16-17.

Claim 11 and, likewise, claim 68 are amended grammatically to make them read more clearly.

Claim 26 is amended to make minor typographical corrections.

Each of claims 70 and 71 is amended, in like manner to claims 4 and 5, to substitute the word "exposing" for the phrase "antigen ... administered", in accord with the "exposing" of claim 66 from which these claims depend. Support for these amendments can also be found in the specification, for example, at page 30, lines 12-22. Claims 70 and 71 are also amended to specify the oligonucleotide is a CpG oligonucleotide. Support for these amendments can be found throughout the specification. Claims 70 and 71 are also amended to specify an upper limit of 30 days for the delay in exposure to antigen relative to administration of CpG oligonucleotide. Support for these amendments can be found throughout the application, including page 21, lines 16-17.

New claims 78-83, which depend from claim 1, further specify specific delays between administration of CpG oligonucleotide and antigen exposure, including 3, 4, 5, 6, 7, and 3 to 7 days. Support for these claims can be found in the specification at various locations, including, for example, page 21, lines 16-17 and Figure 17.

New claims 84 and 85, which also depend from claim 1, specify particular routes of administration for the CpG oligonucleotide. Support for these new claims can be found in the specification at, for example, page 30, lines 15-17.

New claim 86, which depends from claim 85, specifies that the exposing involves intranasal administration, 3 to 7 days following administration of CpG oligonucleotide.

New claim 87, which depends from claim 85 or claim 86, specifies the antigen is a microbial antigen, an allergen, or a cancer antigen. Support for this claim can be found in the specification at, for example, page 17, lines 12-13.

New claim 88, which depends from claim 85 or claim 86, specifies the antigen is derived from an infectious organism selected from the group consisting of infectious bacteria, infectious viruses, and infectious fungi. Support for this claim can be found, for example, at page 10, lines 1-3, of the specification.

New claim 89, which also depends from claim 85 or claim 86, specifies the CpG oligonucleotide includes a phosphate backbone modification which is a phosphorothioate or phosphorodithioate modification. Support for this claim can be found throughout the specification, including at page 12, lines 20-22.

New claim 90 specifies the CpG oligonucleotide in claim 66 is 8 to 100 nucleotides in length. Support for this claim can be found through out the specification, including, for example, at page 12, line 18.

New claims 91-98, which depend from claim 66, further specify specific delays between administration of CpG oligonucleotide and antigen exposure, including 3, 4, 5, 6, 7, 3 to 7, 4 to 30, and 7 to 30 days. Support for these claims can be found in the specification at various locations, including, for example, page 21, lines 16-17 and Figure 17.

New claim 99, which depends from claim 66, specifies an intranasal route of administration for the CpG oligonucleotide. Support for this claim can be found as noted above with reference to claims 84 and 85.

New claim 100, which depends from claim 99, specifies that the exposing involves intranasal administration, 3 to 7 days following administration of CpG oligonucleotide.

New claim 101, which depends from claim 99 or claim 100, specifies the antigen is a microbial antigen, an allergen, or a cancer antigen. Support for this claim can be found as noted above with respect to claim 87.

New claim 102, which depends from claim 99 or claim 100, specifies the antigen is derived from an infectious organism selected from the group consisting of infectious bacteria, infectious viruses, and infectious fungi. Support for this claim can be found as noted above with reference to claim 88.

New claim 103, which also depends from claim 99 or claim 100, specifies the CpG oligonucleotide includes a phosphate backbone modification which is a phosphorothioate or phosphorodithioate modification. Support for this claim can be found as noted above with respect to claim 89.

Information Disclosure Statements

Applicants wish to call to the attention of the Examiner that Forms 1449 received at the Patent Office on July 5, 2001, February 18, 2003, and December 11, 2003, have not been checked off by the Examiner. Applicants respectfully request copies of the above-referenced Forms 1449 be initialed by the Examiner to indicate that references cited therein have been considered by the Examiner.

Claim Rejections Under 35 U.S.C. § 102(b)

The Examiner indicated that claims 1-6, 14-17 and 26 were rejected under 35 U.S.C. § 102(b) as being anticipated by Krieg et al. [Cold Spring Harbor, abstract 90, page 11 (1996)]. The Examiner also indicated that claims 10-12 were free of the prior art of record but were objected to for being dependent upon a rejected claim (viz., claim 1). For reasons stated below, Applicants respectfully request the Examiner to reconsider and withdraw the claim rejections under 35 U.S.C. § 102(b).

For the record, Applicants respectfully disagree with the Examiner's assertion that Krieg et al. anticipates claim 1 because Applicants do not believe the reference teaches what the Examiner says it does. In particular, Applicants do not believe the reference of Krieg et al. explicitly teaches a method for inducing an antigen-specific immune response.

The foregoing notwithstanding, for the sake of advancing prosecution, claim 1 is amended, inter alia, to specify that the antigen to which the subject is exposed following administration of a CpG oligonucleotide is selected from cell extracts, proteins, polysaccharides, polysaccharide conjugates, lipids, glycolipids, carbohydrate, viral extracts, and allergens. That is, the antigen of claim 1 to which the subject is exposed following administration of a CpG oligonucleotide is not a living organism such as is *Listeria monocytogenes*, as taught by Krieg et al. Applicants submit that claim 1 as currently amended is clearly not anticipated by Krieg et al. because Krieg et al. teaches administration of live *Listeria monocytogenes* following CpG administration, while the claim does not contemplate administration of live *Listeria monocytogenes* or any other living organism following CpG administration. Therefore Applicants respectfully request the Examiner to reconsider and withdraw the rejections of claims 1-6, 14-17 and 26 under 35 U.S.C. § 102(b).

Claim Rejections Under 35 U.S.C. § 103(a)

The Examiner indicated that claims 1, 7-9, 13, and 17-25 were rejected under 35 U.S.C. § 103(a) as being obvious over Krieg et al. [Cold Spring Harbor, abstract 90, page 11 (1996)] in view of Krieg et al. (US 6,218,371). It is noted that claims 7-9, 13, and 17-25 all depend, directly or indirectly, from claim 1. For reasons stated below, Applicants respectfully request the Examiner to reconsider and withdraw the claim rejections under 35 U.S.C. § 103(a).

As noted above, claim 1 is currently amended to specify certain antigens and thereby overcome the 102(b) rejection. Having thereby removed the reference of Krieg et al. [Cold Spring Harbor, abstract 90, page 11 (1996)], Applicants submit that the obviousness rejection based on the combination of references cited by the Examiner is also overcome. It is thus respectfully submitted that claim 1 as currently amended and claims 7-9, 13, and 17-25 dependent therefrom are not obvious over Krieg et al. [Cold Spring Harbor, abstract 90, page 11 (1996)] in view of Krieg et al. (US 6,218,371). Applicants therefore respectfully request the Examiner to reconsider and withdraw the rejections of claims 1, 7-9, 13, and 17-25 under 35 U.S.C. § 103(a).

Claim Objections

The Examiner indicated that claims 10-12 were objected to for being dependent upon a rejected claim. As noted previously, claim 1 is amended to overcome the rejection under 35 U.S.C. § 102(b). Claims 10-12 depend, directly or indirectly, on currently amended claim 1. Applicants respectfully submit that the current amendment to claim 1 overcomes the Examiner's objections and therefore request the Examiner to reconsider and withdraw the objections to claims 10-12.

Request for Interference with U.S. Pat. No. 6,514,948

Pursuant to 37 C.F.R. § 1.607(a), Applicants seek to have an interference declared with unexpired U.S. Pat. No. 6,514,948, having an effective filing date of July 2, 1999, and issued on February 4, 2003. Applicants seek to have an interference declared with U.S. Pat. No. 6,514,948 because the subject matter claimed in U.S. Pat. No. 6,514,948 was invented by Applicants as is disclosed in the instant application (filed February 2, 1999, now pending) and/or an application to which this application claims priority, U.S. 60/085,516 (filed May 14, 1998, now expired).

This request is timely filed because at least one claim corresponding to the proposed count is presented within one year of the issue date of U.S. Pat. No. 6,514,948.

Applicants propose a count for an interference as follows:

Proposed Count 1

Claim 1 of U.S. Pat. No. 6,514,948

or

Claim 2 of U.S. Pat. No. 6,514,948

or

Claim 4 of U.S. Pat. No. 6,514,948

or

Claim 85 of this application

or

Claim 86 of this application.

Claims 85 or 86 presented above correspond to the proposed count. Claims 1, 2, or 4 of U.S. Pat. No. 6,514,948 correspond to the proposed count.

Certain claims added in this amendment correspond to and were substantially copied from the claims of U.S. Pat. No. 6,514,948 as follows:

Claims of U.S. Pat. No. 6,514,948	Claims added herewith
1	85, 86
2	85, 86
4	85, 86
9/1, 2, 4	87
10/1, 2, 4	88
12/1, 2, 4	89

Applicants wish to bring to the attention of the Examiner that the nonprovisional patent application on which the added claims are based was filed February 2, 1999, that is, five months before the earliest effective filing date of U.S. Pat. No. 6,514,948.

Summary

It is believed that all claims are in condition for allowance and patentable to the Applicants. A request for interference with U.S. Patent No. 6,514,948 is made in accord with 37 C.F.R. § 1.607(a). A favorable and early response is earnestly solicited. Should the Examiner have any questions, she is requested to call Applicants' representative at the number shown below.

Respectfully submitted,
Wagner et al., Applicants

By: _____

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